

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. – 3. (Cancelled)

4. (Cancelled)

5. – 22. (Cancelled)

23. (Currently Amended) The gas discharge detector of Claim ~~27~~ 29 wherein the gas discharge tube is no more than 10 millimeters in length.

24. (Previously Presented) The gas discharge detector of Claim 23 wherein the gas discharge tube has a diameter on the order of 1 mm.

25. (Cancelled)

26. (Cancelled)

27. (Cancelled)

28. (Currently Amended) The gas detector of Claim ~~27~~ 29 wherein the radial ~~line~~ resonator subjects the discharge tube and enclosed passageway with sufficient amounts of microwave energy to generate plasma in the discharge tube from the gas, such microwave energy not effecting the cooling air.

29. (New) A gas detector comprising:

a discharge tube made of sapphire in which gas is carried for conversion to a plasma therein; and

a radial resonator having a chamber therein and having a central passageway extending axially there thorough which cooling air moves, the discharge tube extending through the central passageway so that the cooling air comes in contact with the external surface of the discharge tube, the radial resonator when energized subjecting the discharge tube with sufficient amounts of radio frequency or microwave energy to generate plasma from the gas in the discharge tube, such radio frequency or microwave energy not effecting the cooling air.